

PATENT

INSTITUT FRANÇAIS DU PETROLE

**METHOD AND DEVICE FOR NEUTRALIZING, BY CONTROLLED GAS
INJECTION, THE FORMATION OF LIQUID SLUGS AT THE FOOT OF A
RISER CONNECTED TO A MULTIPHASE FLUID TRANSPORT PIPE**

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ABSTRACT

- Method and device for neutralizing, by controlled gas injection, the formation of liquid slugs at the foot of a pipe portion greatly inclined to the horizontal or riser connected to a pipe carrying circulating multiphase fluids such as hydrocarbons.
- Flow rate control is essentially obtained by injecting, at the base of the riser, a volume of gas proportional to the flow rate variation with time of the gas phase of the circulating fluids, and preferably substantially equal thereto, when this variation is positive. This action can be completed by modulating the injected gas flow by a quantity proportional to the flow rate variation of the liquid phase of the circulating fluids.
- Applications : offshore hydrocarbon production control for example.